Level 2 Examiners' Report

Additional Mathematics
Level 2
Summer 2025

Introduction

Our Principal Examiners' report provides valuable feedback on the recent assessment series. It has been written by our Principal Examiners and Principal Moderators after the completion of marking and moderation, and details how candidates have performed in each unit.

This report opens with a summary of candidates' performance, including the assessment objectives/skills/topics/themes being tested, and highlights the characteristics of successful performance and where performance could be improved. It then looks in detail at each unit, pinpointing aspects that proved challenging to some candidates and suggesting some reasons as to why that might be.[1]

The information found in this report provides valuable insight for practitioners to support their teaching and learning activity. We would also encourage practitioners to share this document – in its entirety or in part – with their learners to help with exam preparation, to understand how to avoid pitfalls and to add to their revision toolbox.

Further support

Document	Description	Link
Professional Learning / CPD	WJEC offers an extensive programme of online and face-to-face Professional Learning events. Access interactive feedback, review example candidate responses, gain practical ideas for the classroom and put questions to our dedicated team by registering for one of our events here.	https://www.wjec.co.uk/home/professional-learning/
Past papers	Access the bank of past papers for this qualification, including the most recent assessments. Please note that we do not make past papers available on the public website until 12 months after the examination.	Portal by WJEC or on the WJEC subject page
Grade boundary information	Grade boundaries are the minimum number of marks needed to achieve each grade. For unitised specifications grade boundaries are expressed on a Uniform Mark Scale (UMS). UMS grade boundaries remain the same every year as the range of UMS mark percentages allocated to a particular grade does not change. UMS grade boundaries are published at overall subject and unit level. For linear specifications, a single grade is awarded for the subject, rather than for each unit that contributes towards the overall grade. Grade boundaries are published on results day.	For unitised specifications click here: Results, Grade Boundaries and PRS (wjec.co.uk)

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[1] *Please note that where overall performance on a question/question part was considered good, with no particular areas to highlight, these questions have not been included in the report.*

Exam Results Analysis	WJEC provides information to examination centres via the WJEC Portal. This is restricted to centre staff only. Access is granted to centre staff by the Examinations Officer at the centre.	Portal by WJEC
Classroom Resources	Access our extensive range of FREE classroom resources, including blended learning materials, exam walk-throughs and knowledge organisers to support teaching and learning.	https://resources.wjec.co.uk/
Bank of Professional Learning materials	Access our bank of Professional Learning materials from previous events from our secure website and additional pre-recorded materials available in the public domain.	Portal by WJEC or on the WJEC subject page.
Become an examiner with WJEC.	We are always looking to recruit new examiners or moderators. These opportunities can provide you with valuable insight into the assessment process, enhance your skill set, increase your understanding of your subject and inform your teaching.	Become an Examiner	WJEC

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Executive Summary

The Level 2 Additional Mathematics examination paper was generally of a similar standard to previous examination series. As is always the case, some questions were more demanding in some topics than in previous series, whilst others were less demanding. It was pleasing to see that, unlike last summer, fewer 16-year-old candidates seemed to have gaps in their knowledge and understanding and, therefore, were able to access more demanding topics and skills.

There are some areas of the subject content that are not well understood each year and this year was no exception. These include topics such as indices with fractional values, and differentiation of fractional terms.

Similar to previous series, questions that were set in context, both mathematical and non-mathematical, proved challenging for candidates, e.g. Q6, Q12. Candidates struggled to translate the information given in the questions into the relevant mathematical processes. These problem-solving styles of questions require a deeper understanding of the underlying mathematics, than simply following routine processes and procedures.

Overall, candidates performed better on the exam paper this series, and many excellent solutions were seen to all questions in the paper, e.g. calculus (Q15), factor and remainder theorem (Q4), and intersection of a line and a curve (Q10).

ADDITIONAL MATHEMATICS

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Overview of the Unit

All Assessment Objectives were assessed across a broad range of the content.

Most candidates generally appeared well prepared for the examination.
Not all candidates abided by the instructions to show working or not to use a calculator.

Comments on individual questions/sections

When a question or part-question is not listed, there are no particular misconceptions or areas to highlight.

Many parts of questions involving differentiation were generally well answered by candidates. However, there were a number of issues, which include the following.

- In question 1(b), many candidates made errors differentiating $-\dfrac{3}{x^9}$, either with the index or the sign.
- In question 11, many candidates were not sufficiently careful with notation, possibly through lack of understanding of the limiting process.

In question 3(c), incorrect strategies included:
- incorrectly thinking the terms could be simplified by cancelling the first term of the numerator with the denominator,
- evaluating the product of the 3 terms on the numerator and then dividing by the denominator.

A correct strategy was to write the single fraction given as 3 separate fractions, however many candidates incorrectly simplified x^0 as zero, rather than one.

A few candidates did not finally simplify indices expressed as $\dfrac{2}{8}$ or $\dfrac{4}{8}$ to $\dfrac{1}{4}$ and $\dfrac{1}{2}$ respectively.

In question 6, many candidates incorrectly considered the small triangle shown on the vertical side to be an isosceles right-angle triangle. A few candidates used a method of similar triangles to find the length of the ribbon, whilst other candidates applied knowledge of nets and Pythagoras' Theorem. However, there were many candidates who did not have a correct strategy to calculate the distance required.

Many candidates demonstrated skills of integration in questions 8, 15(b) and 17. However, in question 17 many candidates did not use the inequalities to identify the required region and, as a consequence, used incorrect limits.

The understanding of second derivative was clear in question 15(a) and used for interpretation in question 13 (stationary points), but less well understood working with a problem in question 15(c) (identifying coefficients).

In question 12, a number of candidates did not set up fractions, or inverted the required fractions. Other candidates worked incorrectly with the ×10 and ×5 in their fractions for wire or tubing respectively. Some candidates incorrectly decided to multiply both the numerator and the denominator by ×10 and ×5 respectively, thus overall multiplying each fraction by 1.

In summary key areas for improvement include the following.
- Understand and simplify a sum of terms with fractional indices.
- Apply rules of differentiation for a term with a denominator given as x^n, where n is an integer.
- Use inequalities to determinate a region in order to calculate an area.

The following topic areas were generally well-understood or well-answered.
- Apply rules of differentiation and integration where indices of x are positive integers.
- Use differentiation to find stationary points and use the second derivative test to establish the nature of these points.
- Use the remainder theorem and hence factorise a cubic expression.
- Find the gradient of a straight line perpendicular to a line joining two given points.

Supporting you

Useful contacts and links

Our friendly subject team is on hand to support you between 8.30am and 5.00pm, Monday to Friday.
Tel: 029 2240 4251
Email: mathematics@wjec.co.uk
Qualification webpage: https://www.wjec.co.uk/qualifications/additional-mathematics-level-2/
See other useful contacts here: Useful Contacts | WJEC

CPD Training / Professional Learning

Access our popular, free online CPD/PL courses to receive exam feedback and put questions to our subject team, and attend one of our face-to-face events, focused on enhancing teaching and learning, providing practical classroom ideas and developing understanding of marking and assessment.

Please find details for all our courses here: https://www.wjec.co.uk/home/professional-learning/

WJEC Qualifications

As Wales' largest awarding body, WJEC supports its education community by providing trusted bilingual qualifications, specialist support, and reliable assessment to schools and colleges across the country. This allows our learners to reach their full potential.

With more than 70 years' experience, we are also amongst the leading providers in both England and Northern Ireland.